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REMARKS

This amendment is supplemental to the preliminary amendment filed on March 25, 2002. With respect to the amendment filed on March 25, 2002, it is to be noted that the first sentence on page 11 of the amendment under the heading "REMARKS" should read "The amendment to the specification corrects a few typographical errors . . . " instead of "The amendment to the specification contains a few typographical errors . . .".

It has now come to applicants' attention that a couple of the changes made to the specification in the amendment dated March 25, 2002 (i.e., the changes made to the paragraphs on page 23 and page 30), are incorrect. The present amendment to these two paragraphs corrects these errors.

Upon further review of the specification, it has also come to applicants' attention that there are a couple of typographical errors with respect to the percentage of Sn contained in the alloys described on page 21, lines 14 and 21. In particular, in both alloys the amount of Sn should read "0.7 wt.%" instead of "0.07 wt.%". It is to be noted from the specification (page 21, lines 16-18 and page 21, lines 23-25) that the above-mentioned alloys are the alloys identified in figure 5 and therefore they have the physical properties identified in figure 5. It is submitted that in view of the information contained in the specification, the properties of these two alloys correspond to the above-mentioned alloys wherein the amount of Sn is 0.7 wt.%. In addition, it is to be noted that the third alloy identified in Table 2 (page 24) is the alloy of page 21, line 21 as presently corrected herein.

In view of the above, it is self-evident that one skilled in the art would recognize that the reference to 0.073 wt.% with respect to the amount of Sn in these two alloys is a typographical error. The present amendment merely corrects the above-noted typographical error.

The above-noted alloys are also the alloys recited in claims 27 and 28. Accordingly, claims 27 and 28 have been amended to correct the above-noted typographical error.

Claim 29 has also been amended to correct a typographical error. In particular, the amount of calcium recited in the alloy of claim 29 should read "0.073 wt.%" in order to be consistent with the specification (page 21, line 27).

Respectfully submitted,

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Date: April 4, 2002

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph on page 23 (as amended in the amendment dated March 25, 2002) beginning with the term "EXAMPLE #4" at line 17 and ending on page 23, line 30, was amended as follows:

EXAMPLE #4

Various lead alloys were subjected to one or more deformation and annealing cycles used to make the recrystallized lead-alloy according to this invention. In each cycle the sample was deformed at room temperature to 25% reduction in thickness and then annealed by heat-treating at 255°C for five minutes. After the [first] final deformation reduction and annealing, each of the aforementioned lead alloys was tested for hardness. A minimum of six hardness measurements at each of two locations of the test alloys were obtained using a Shimadzu model HMV2000 micro hardness tester utilizing a 25g load. The hardness of each metal was also measured in the same way in the as-cast condition (i.e. without being subjected to deformation and annealing cycle). The f_{sp} count of the as-cast material samples prior to GBE processing in all cases was between 10 and 15%. The results of the hardness test for each of the lead alloys is shown in Table 2. In all instances, the deformation reduction and heat annealing cycle(s) resulted in an alloy having a lower hardness than the one of the corresponding as-cast alloy.

The paragraph on page 30, beginning with the term "EXAMPLE #11" at line 9, and ending on page 30, line 17 (as amended in the amendment dated March 25, 2002), has been amended as follows:

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EXAMPLE #11:

Two Pb-Ca-Sn alloys were cast into sheets. An as received set representing prior art and a set processed according to the invention were corrosion tested in an environment representative of a zinc-electrowinning operation. The peening was performed using 28 mil steel shot at 80 psi at room temperature. Three passes per substrate were performed within three minutes and the peened samples were subsequently annealed at 250 °C for 10 minutes. A pretreatment comprising a 30 minute soak at 300 °C was used to modify existing precipitates to facilitate the GBE process. The following [table 9 illustrates] tables 9 and 10 illustrate the sample characteristics and the corrosion performance.

The paragraph on page 21, beginning at line 14 and ending on page 21, line 19, has been amended as follows:

A Pb-0.073wt% [Ca-0.07wt%] Ca-0.7 wt% Sn alloy (Class II) was processed by three cycles each comprised of cold rolling at room temperature to achieve a 40% reduction in thickness, annealing at 270 °C for 10 minutes in air followed by air cooling. The resulting microstructural improvement in terms of special grain boundary content is summarized in Figure 5 (identified as PbCaSn in Figure 5). The special grain boundary content was increased from 11% in the as-cast starting material, to 51% in the material processed by the method described.

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The paragraph on page 21, beginning at line 21 and ending on page 21, line 26, was amended as follows:

A Pb-0.065wt% [Ca-0.07wt%] Ca-0.7 wt% Sn 0.03wt% Ag alloy (Class II) was processed by two cycles each comprised of cold rolling at room temperature to achieve a 40% reduction in thickness, annealing at 250 °C for 10 minutes in air followed by air cooling. The resulting microstructural improvement in terms of special grain boundary content is summarized in Figure 5 (identified as PbCaSnAg in Figure 5). The special grain boundary content was increased from 12% in the as-cast starting material, to 70% in the material processed by the method described.

IN THE CLAIMS:

Please amend the below claims as follows:

27. (Amended) The recrystallized lead alloy of claim 1 which consists of 0.73 wt. % Ca, [0.07] 0.7 wt. % Sn with the balance being Pb;

said mass is in the form of a strip;

said strip is deformed in step a) by cold rolling at room temperature to achieve a 40% reduction in thickness;

said lead alloy is annealed in step b) at a temperature of 270°C for 10 minutes;

the number of cycles is 3;

and said lead alloy is cooled to ambient temperature after completing said three cycles.

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28. (Amended) The recrystallized lead alloy of claim 1 which consists of 0.65 wt. % Ca, [0.07] 0.7 wt.% Sn and 0.3 wt. % Ag with the balance being Pb;

said mass is in the form of a strip;

said strip is deformed in step a) by cold rolling at room temperature to achieve a 40% reduction in thickness;

said lead alloy is annealed in step b) at 250°C for 10 minutes;

the number of cycles is 2;

and said lead alloy is cooled to ambient temperature after completing said two cycles.

29. (Amended) The recrystallized lead alloy of claim 1 which consists of [0.73] 0.073 wt. % Ca, 1.4 wt. % Sn with the balance being Pb;

said mass is in the form of a strip;

said strip is deformed in step a) by cold rolling at room temperature to achieve a 40% reduction in thickness;

said lead alloy is annealed in step b) at 250°C for 10 minutes;

the number of cycles is 2;

and said lead alloy is cooled to ambient temperature after completing said two cycles.